

Impact Story Mentoring programme for early career researchers

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Mentoring programme for early career researchers

Intervention Definition

The share of women within fields of research, technological development and innovation (RTDI) such as natural and technical sciences as well as in research in general decreases with every career step (the so-called 'leaky pipeline'). Women are not only underrepresented among researchers, but also in leadership positions within academia (Göransson 2011, European Commission 2016). Mentoring schemes for less experienced (female) researchers are expected to contribute to enhancing the (female) talent pool for career progression by strengthening mentees' professional and/or leadership skills and improving their career prospects through better-informed planning, better and more efficient networking, and insights into organisational norms, processes, and policies in research environments where male cultures often dominate. As part of a professional mentoring relationship, schemes may also choose to focus on personal development and emotional support (Hansman 1998). Mentoring schemes may in general take many different forms and have different objectives. However, most constellations consist of a mentoring relationship, which involves an experienced mentor who coaches, guides, advises, and otherwise supports a less experienced mentee (Chandler 1996). Furthermore, some scholars stress that mentoring relationships are reciprocal and benefit not only the mentee but the mentor and the research environment as a whole as well (Kalpazidou Schmidt and Faber 2016).

In practice, mentoring usually entails a recruitment process of mentors and mentees, followed by matching of well-suited mentor-mentee pairs. Depending on the degree of formalisation, a mentoring scheme may be commenced by a launch meeting or workshop, or mentor-mentee pairs may start the mentoring meetings directly from the outset. Formal requirements may also determine how often mentor-mentee pairs should meet and what topics they should discuss, whereas in informal mentoring relationships, meetings and content may be agreed upon an ad hoc basis. As the mentor-mentee pair gets to know each other, the level of mutual trust and self-disclosure increases which, ideally, adds to psychosocial support and benefits both parties (Hansman 1998).

A mentoring programme implemented at Aarhus University (AU) is an example of an existing voluntary mentoring scheme for less experienced researchers in academia. It is a programme targeted for early career scholars (post docs and assistant professors). In this particular mentoring programme, mentees are initially matched with mentors, which are associate or full professors from Aarhus University by the Human Resources department of the university. There are no formal requirements to topics of discussion and the mentors and mentees meet several times during a year typically one to two hours each time. During these meetings the mentors and mentees typically discuss career opportunities, publication strategies, prioritising of tasks (research, teaching, general workload and work-life balance), as well as project applications for funding and how to learn to navigate in the research environment in general (Damgaard Nielsen et al. 2013).

Intervention Definition Short

As women are underrepresented in research and leadership positions within academia, the purpose of mentoring programmes are to contribute to improving the female talent pool for career progression by strengthening women mentees' professional and/or leadership skills and career prospects through planning, prioritising, networking and insights into organisational norms, processes and policies.

Mentoring schemes may take different forms and have different objectives. However, most definitions agree that a mentoring relationship typically involves an experienced (older) mentor who guides, advises, and supports a less experienced mentee (Chandler 1996).

Objectives

- (1) Increase the number of women in R&I positions
- (2) Improve work conditions/work-life balance
- (3) Boost professional capabilities of women to pursue promotion
- (7) Increase R&I outputs and impacts

Output

The intervention's short-term output is the fostering of improved confidence, well-being and job satisfaction of individual mentees. Mentees further stress improved knowledge and understanding of advancement prerequisites and career strategies as a valuable output. Mentoring may also concern clarifying leadership career ambitions and acquiring specific competencies. Additional outputs include the formulation of mentoring scheme policies and guidelines for the mentoring relationship in the organisation, ensuring adequate mentoring infrastructure such as introduction of meetings, workshops, etc., as well as recruitment and matching of mentors and mentees. Lastly, increased intrinsic motivation and satisfaction of mentors to 'do something good' for a less experienced researcher may be considered as a positive side effect of mentoring (Kalpazidou Schmidt and Faber 2016). In the case of AU mentoring, analysis indicates that the mentees do obtain improved clarification and understanding about career paths and strategies to navigate more efficiently in the research environment.

Output Short

The intervention's output is improved mentee confidence and satisfaction in research environments and increased ability to understand and navigate efficiently in these research systems.

Output indicators

- 1.1.1 Encouragement to engage in decision-making
- 2.1.1 Perceived challenges in balancing private life and work
- 2.2.1 Transparent promotion system
- 2.2.4 Guidelines on how to argue a release from one kind of activity (for example teaching) to focus on research
- 2.3.2 Knowledge of criteria for promotion
- 2.3.2 Awareness of research opportunities
- 3.2.1 Ability to identify and access mentors
- 3.2.2 Implementation of mentoring/ coaching programmes/sessions
- 3.2.2 Use of mentoring (promoting of career, obtaining of resources, useful advices, etc.)
- 3.2.2 Share of women local researchers who are considered as mentors

Outcome

The intervention's initial outcomes include retention in academia of competent (early career female) researchers, as mentors advise mentees about career 'paths, shortcuts and minefields' within research environments. Outcomes may also reside in the mentees' improved efficiency when mentors give advice on time management and prioritising work assignments but also in support of developing leadership skills. Mentees may improve their intangible skills, when they feel more confident and goal focused due to mentors help in clarifying competencies and

strengths and identify learning potential in their fields. Finally, mentees may benefit from the mentoring relationship by gaining access to the professional network of the mentor (Kalpazidou Schmidt and Faber 2016).

Outcome Short

The intervention's outcomes include retention of competent researchers, as mentors' advice mentees about career paths, shortcuts and pitfalls within research environments. Among outcomes are also increased intangible skills such as better understanding of behavioural research logics in the system.

Outcome indicators

- 2.2.1 Range of respect by boss/colleagues/ students
- 2.2.3 Sense of belonging to group
- 2.2.3 Cultural/professional features of work environment
- 2.3.3 Revisions of career plan
- 2.3.3 Change in motivation to invest more effort in scientific career
- 3.1.1 Strength of identification as a female leader (Uppsala)
- 3.2.1 Building/extension of network and its usage to advance career
- 3.2.1 Knowledge about own career path and potential obstacles
- 3.2.2 Support to create/sustain networks
- 3.2.2 Benefits of coaching/mentoring

Impact

Mentoring potentially improves research impact by increasing the cultural coherence in the research system where the mentee and mentors operate. This could be through better collegial support, knowledge sharing and collaboration across seniority ranks, clarifying pathways to qualifying for permanent research and/or leadership positions, as well as better understanding of the norms and culture of the research environment and increased awareness of gender structures in the organisation (Kalpazidou Schmidt and Faber 2016, Gardiner et al. 2007). An improved coherence and networking together with increased diversity may also increase academic innovativeness and production (Wullum Nielsen et al. 2018).

Furthermore, when senior mentors learn about the (gendered) struggles of less experienced researchers, this may contribute to increased and sustained awareness at the organisational level about gender related issues, change organisational structures and culture and thereby foster better general integration of women in the research environment (Kalpazidou Schmidt and Faber 2016). In the end, improved networking with more experienced researchers and better integration into a more gender aware research environment may lead to improved research productivity and higher quality of research, e.g. increased number of publications in peer-reviewed high-impact journals (e.g. Wullum Nielsen et al. 2018).

In the Aarhus University mentoring programme an additional impact of the intervention included creating awareness about the benefits of mentoring programmes at other universities. For example, other Danish universities have contacted the programme managers and inquired into the mentoring scheme in order to launch similar programmes.

Impact short

The impact is wide ranging and is expectably increased academic coherence in the research organisations through increased collegial support, knowledge sharing and collaboration across

seniority ranks, clarifying pathways to qualifying for permanent positions, as well as better understanding of the norms and culture of the research environment and increased awareness of gender structures. Thereby, the long run impact is gender diverse well-functioning research environments with increased research quality and high-productivity research environments.

Impact indicators

- 1.2.1 Reaction to female supporting treatment
- 2.2.3 Sense of community
- 3.1.1 Visibility of women at national level
- 3.2.1 Opportunities for publishing
- 3.3.1 Inclusion of the gender dimension in teaching/curricula
- 3.3.1 Institution's commitment to promote equality and diversity
- 4.1.1 Acceptance of cultural change
- 5.1.1 Percentage of publications published in the top 10 % impact ranked journals
- 5.4.1 Equitably published results to ensure a balance of authorship in research
- 5.5.1 Considering gender aspects in the research design

Policy Context

Kalpazidou Schmidt and Cacace (2017, 2018) showed the importance of policy (as well as organisational) context for the impact of different kind of interventions, among others mentor scheme interventions. Depending on national and local policy context, mentor programmes can be more or less straightforward to implement efficiently. A mentor programme solely targeting women mentees can be subject to national discussion and even resistance in the organisation, especially in countries where the general assumption is that gender equality has been achieved or in countries where affirmative actions are not usual and welcome (Kalpazidou Schmidt et al. 2017). In such intolerant environments, inclusion of men in the mentoring programmes may be considered to avoid resistance.

An example of a mentoring programme, which was changed from being a programme aimed at women solely and promoting women researchers' career progress, to be targeted at all early career scholars is the mentoring programme at Aarhus University. Only the initial first round of the programme was for female mentees solely. In other less hostile policy regimes, e.g. Sweden, similar programmes are easier to target towards women solely. However, from a research performance point of view, increasing qualifications will typically increase productivity independent of gender. On the other hand, one risk in connection with programmes targeting both gender may be that the outcome works against the intention of empowering women and thus reinforces inequality.

Another aspect of the policy context to be considered is the judicial barriers, as women only mentoring programmes, might be illegal according to the law on discrimination in some countries and therefore need dispensation before implementation, e.g. as is the case in Denmark (Kalpazidou Schmidt et al. 2017).

Organisational Context

Regarding the influence on mentor programme effects of the organisational context, a first and significant influencer is that consensus among leaders and management of the organisations as to the initiation and implementation of these type of mentoring interventions is crucial (Kalpazidou Schmidt and Cacace 2018; Cacace et al. 2015). The case of the AU mentoring programme illustrates this clearly, as policy makers and programme managers in the intervention commonly express the view that support from the university management is of great im-

portance for the implementation, success and continuation of the programme. Besides the support of the leadership, the case of the AU mentoring programme also points to the importance of "bottom-up" support, e.g. willingness of tenured faculty to function as mentors as well as the willingness of early career scholars to participate in the programme, which is also dependent on researchers being aware of the existence of the programme (Ibid.).

The university management may support the intervention, i.e. top-down initiated and through financial backing. In some cases, this intervention can be financially inexpensive, as the mentors can participate voluntarily (doing it for the 'greater good'), but institutions might consider establishing benefit structures (such as financial grants or time compensation to the mentors) (Kalpazidou Schmidt and Faber 2016).

The organisational context is also relevant when looking at the impact of the intervention. Critics point to how mentoring schemes target individual women as opposed to organisational structures and culture, in efforts to 'fix the women' as opposed to 'fixing the organisation'. As such, mentoring cannot stand alone in improving gender equality in organisations (Kalpazidou Schmidt and Cacace 2018, van den Brink and Benschop 2012). Finally, to be effective, mentoring schemes need to be intersectional in order to successfully include and positively support all women in need for mentoring and allowing equal access to the programme (Chandler 1996).

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